Timpdon Electronics

UltraRad Radio System
Receiver Model *URX1*

The ***UltraRad*** Radio Receiver Model ***URX1*** is designed to be used with any ***UltraRad*** radio receiver and controller.

It complies fully with all UK legislation for licence free operation.

Specification

Frequency	434.20 MHz
RF Sensitivity	-106 dBm
Modulation	Frequency Modulation
Range	Up to 30 metres with ***UTX1*** transmitter, in a normal model railway or garden environment
Size	70mm x 16mm x 12mm
Weight	15g
Power Supply	5V +/- 0.5 V at 10 mA Derived from controller

Function

The ***URX1*** is simply a radio receiver, intercepting the transmissions from any ***UltraRad*** transmitter and reconstructing the data packets encoded by the transmitter into a form suitable for processing by the controller to which it is connected.

All other signal processing, validation and control is performed by the controller, the exact details of which will depend on the particular controller type.

The ***URX1*** has no user controls or adjustments.

Connections

The ***URX1*** is connected by a plug and socket connection directly to a flying lead from the controller with which it is to be used.

When connecting, take special care to observe connection polarity. The **red** mark on the flying lead connector, or the **red** wire, **must** be positioned adjacent to the **red mark** on the body of the ***URX1***.

If you apply power to the ***URX1*** with the wrong connection polarity, you will almost certainly damage the ***URX1*** irreparably. **This action will not be covered under our warranty**.

Mounting and Aerial Positioning

If you are mounting the ***URX1*** in a plastic bodied vehicle, positioning is not critical, except that ideally the ***URX1*** should be mounted so that the aerial is uppermost. The aerial lead in this instance should just be loosely coiled up in free air, as shown in the illustration above.

For mounting in a metal bodied vehicle, you may have to provide an external aerial to overcome the shielding effects of the earthed body.

Experimentation as to aerial type and positioning may be necessary, but a reasonable result should be obtained by connecting the end of the aerial lead to, for example, a false brass cab roof insulated from the loco body by a plastic sheet.

Remember that at a frequency of 433 MHz, a ¼ wavelength aerial, the ideal length, is only 165 mm long.

However, before attempting to build an external aerial, try the system out first with the simple coiled aerial shown above. In our experience, this works satisfactorily in most case, even where the receiver is mounted within a metal bodied vehicle.

Other Timpdon UltraRad Radio Control Products

Transmitters

Model ***UTX1***

For battery electric vehicle controllers
Compatible with all ***UltraRad*** receivers

Model ***UTX2***

[Under Development]
For live steam vehicle controllers
Compatible with all ***UltraRad*** receivers

Controllers

Model ***URC1***

For battery electric vehicles
Bi-directional PWM speed controller

Model ***URC2***

For battery electric vehicles
Bi-directional PWM speed controller
Two digital auxiliary channels – for lights and horn

Model ***URC3***

[Under Development]
For live steam vehicles with separate regulator and reverse servos
Three servo outputs

- Regulator
- Reverser
- Auxiliary- for steam whistle

One digital auxiliary channel – for lights

Model ***URC4***

[Under Development]
For live steam vehicles with combined regulator and reverse servo
Two servo outputs

- Regulator / Reverser
- Auxiliary – for steam whistle

One digital auxiliary channel – for lights